

**A TAPE-MANUFACTURING SYSTEM HAVING  
EXTENDED OPERATIONAL CAPABILITIES**

ABSTRACT OF INVENTION

5           A tape-manufacturing system for coating at least one tape substrate such as, for  
example, for the manufacture of a high-temperature superconductor (HTS) conductor is  
disclosed. The tape-manufacturing system includes at least two electron beam (e-beam)  
deposition sources, at least one assist source and; optionally, a controller. Each e-beam  
deposition source may be in-process repairable. Each e-beam deposition source is capable of  
10 communicating an evaporant material with at least a portion of at least one tape substrate to  
deposit a coating thereon. The at least one assist source is capable of communicating a beam of  
a species to the coating. The controller communicates with the at least two e-beam deposition  
sources and the at least one assist source.